

9(2)

SOV/107-59-4-11/45

AUTHORS: Polyakov, M., Mitrofanov, V., Filyukov, L., Levintov, G.

TITLE: New Mass-Production Radio Receivers (Novyye massovyye radiopriyemniki)

PERIODICAL: Radio, 1959, Nr 4, pp 12 - 15 (USSR)

ABSTRACT: The Soviet radio industry has begun the mass-production of the "Zarya" and the "Strela" radio receivers. Although the same types of miniature tubes are used in both, their circuitry is different. Figure 1 shows the circuit diagram of the "Zarya" and Figure 2 that of the "Strela" receiver. They are designed for reception of radio stations working on medium (187-577) and long (723-2000) waves. They may be connected to any type of record player. The sensitivity of these receivers at an output of not less than 0.5 watts and a sound pressure of 3-3.5 bar, is not less than 400 microvolts. The range of reproducible sound frequencies is from 150 to 5000 cps at a non-linear

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New Mass-Production Radio Receivers

distortion factor of 5 %. The selectivity is not below 17 db. The receivers are fed from 127 or 220 volt mains and have a power consumption of 40 watts. Both receivers contain two 6IlP tubes and one 6Pl4P tube. One of the 6IlP tubes is used in the converter and the hexode section of the second 6IlP tube functions as an IF amplifier, while the triode section works as a LF preamplifier. The 6Pl4P tube is used in the output stage. Dynamic loudspeakers 1-GD-9 are used in both types. The rectifier of the "Zarya" radio is composed of two DG-Ts27 diodes, while a 6Ts4P rectifier tube is used in the "Strela". The circuitry of the "Strela" is similar to the one used in the "Rekord-47" and "ARZ-49" receivers. There are 4 drawings, 1 diagram, 2 circuit diagrams, 2 tables and 1 Soviet reference.

Card 2/2

LEVINTOV, Genekh Davidovich; GRANOVSKAYA, I.E., red.; BABICHEVA, V.V.,  
tekhn.red.

[Consumers guide to radio receivers] Pokupateliu o radiopriem-  
nikakh. Moskva, Gos.izd-vo torg.lit-ry, 1960. 81 p.  
(Radio--Receivers and reception) (MIRA 13:7)

LEVINTOV, I.I.

Polarization and charge-exchange interaction in high-energy  
 $\pi$  p-scattering. Zhur.eksp.i teor.fiz. 42 no.1:191-195 Ja '62.  
(MIRA 15:3)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.  
(Mesons--Scattering)

117 APR 1964		P2241000 AND PROPERTIES -0001		APR 1964 117 APR 1964	
<p>CA</p> <p>An impulse source of light and its application to the spectral analysis of metalloids in solids. J. I. Levintov. <i>Bull. acad. sci. U.S.S.R., Ser. phys.</i> 9, 696-702(1943).— A light source ("hot arc") has been developed for the analysis of small amounts of metalloids in catalysts. In this source the processes of evaporation and the excitation of the elements are rapid. The evaporation takes place in a d.c. or a.c. arc. Periodically a 6000-v. 1-microsecond condenser is discharged through the arc. A rotating disk with a slit allows only the light of the impulse discharge to fall on the slit of the spectrograph. A spark gap in series with the arc regulates the timing of the impulses. The spectrum is different from the ordinary arc or spark spectrum as high levels of ionization and excitation are obtained. Working curves of Si and Br in CuO are given. It has been observed that impulses can extinguish the arc discharge.</p> <p>S. Pakver</p>					
<p>ABSTRACT METALLURGICAL LITERATURE CLASSIFICATION</p>					
117 APR 1964		117 APR 1964		117 APR 1964	
117 APR 1964		117 APR 1964		117 APR 1964	

USSR/Spectrographic Analysis  
Light sources

Mar 1946

"Source of Light for the Spectral Analysis of  
Metalloids in Solid Bodies," I. I. Levintov, 4 pp  
Collection - Electro-Chem. Int, AS USSR, Moscow  
"Zhur Tekh Fiz" Vol XVI, No 3

Variation of various characteristics in metals with  
changes in composition, knowledge of which affords  
a method of determining unknown content. Graph  
showing variation in one spectral characteristic  
with varying carbon content. Connection diagrams  
of the light-source apparatus.

12T91

LEVINTOV, I. I. Cand. Physicomath. Sci.

Dissertation: "Impulse Source of Light for Spectrum Analysis of Metalloids, and Optical Investigations of Impulse Discharge." Inst. of Physical Chemistry, Acad. Sci. USSR, 23 Jan 1947.

SO: Yechernyaya Moskva, Jan. 1947. (Project #17836)

Continuous radiation and temperature of ionization of an impulse discharge at atmospheric pressure. I. I. Levintov. *Bull. acad. sci. U.R.S.S., Ser. phys.* 11, 230-38 (1947).—A condenser discharge is superposed on a steady arc and the radiation of the impulse discharge is sep'd. from the general radiation by means of a rotating disk. With Cu as electrode the following cases were studied: (1) ratio of intensities of the arc and spark lines of Cu to the background intensity as a function of the temp. of the discharge. The study of 13 spark and 8 arc lines of Cu shows qual. agreement with the theory of Unold. (2) Ratio of intensities of the arc and spark lines of an impurity to the background intensity with the impurity having a higher or lower ionization energy than the base. The Cu electrodes contain 3% of either Cd, Zn, or Bi. For a lower-ionization-energy impurity 1% Al was alloyed to the Cu. In both cases there is qual. agreement of the results with the theory. S. Paksver



PA 34773

USSR/Physics  
Spectrum Analysis  
Metals - Spectrographic Analysis

JUL 1986

"Spectrum Analysis of Metalloids in a Hot Arc," I. I. Levintov, Institute of Physical Chemistry, Academy of Sciences of the USSR, 8 pp

"Zhur Tzkh Fiz" Vol XVII, No 7

As a result of some of the previous work of the author it is now possible to evaluate the marginal sensitivity of the analysis of metalloids in new sources and, therefore, possible to arrive at a more rational electrical system and methods of analysis for the solution of practical problems. The author shows methods

LC

USSR/Physics (Contd)

JUL 1986

of making rough estimates of the marginal sensitivity of analysis of metalloids and points out the errors of this system, thus showing that it is preferable to use a more exact method of calculation.

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"APPROVED FOR RELEASE: 07/12/2001

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USSR/Physics - Cathode

21 Aug 52

"Approximate Expression of the '3/2 Law' for a Bounded Cathode in a Uniform Field," I. I. Levintov

"DAN SSSR" Vol 85, No 6, pp 1247-1250

The '3/2 law' expresses the current density  $j$  as a bounded space charge for an infinite plane cathode located in the field of an infinite plane anode. The author gives an approximate expression for the magnitude of the current density on the axis of the beam of  $j_m$  in the case of a current bounded by a

238r99

space charge with cathode radius  $r$  possessing infinite emissivity and located in a uniform field  $V_a$  of an anode at distance  $d$ . Acknowledges helpful discussion of G. I. Barenblatt and M. I. Podgoretzky. Submitted by Acad N. N. Semenov 3 Jun 52.

LEVINTOV I. I.

238r99

LEVINTOV, I.I.

USSR/Physics - Polarization

Card 1/1 Pub. 118 - 3/9

Authors : Levintov, I. I.

Title : Polarization of fast protons and neutrons

Periodical : Usp. fiz. nauk 54/2, 285-314, Oct 1954

Abstract : Problems dealing with the polarization of fast nucleons (protons or neutrons) are considered in the light of the spin-orbit interaction of particles. In connection with the problems of nucleon polarization, the problems of the filling-up of nuclear shells are also considered, especially those which deal with the order of filling the orbital shells, because the filling greatly depends on the spin-orbit interaction. Sixteen references: 2-USSR (1944-1952). Tables; diagrams; graphs.

Institution : ...

Submitted : ...

LEVINTON, I. I.

USSR/ Nuclear Physics

Card 1/1 Pub. 22 - 13/48

Authors : Levinton, I. I.

Title : Polarization of very-fast neutrons during diffusion on heavy nuclei

Periodical : Dok. AN SSSR 98/3, 373-376, Sep 21, 1954

Abstract : An evaluation of polarization effects in quasi-classical approximation, during the diffusion of neutrons on heavy nuclei with 0-spin, is presented. The origination of polarization during classical diffusion is explained. It was established that polarized particles ( $\uparrow$ ) diffused on the left side by-pass the center of diffusion from the right (in the case of attraction forces) and consequently, acquire a parallel orientation, whereas particles polarized ( $\downarrow$ ) and diffused in the very same direction acquire an anti-parallel orientation. Eight references: 4-USA; 3-USSR and 1-Italian (1948-1954). Table.

Institution : Academy of Sciences, USSR, Institute of Chemical Physics

Presented by: Academician V. N. Kondratyev, June 5, 1954

LEVINTOV, I. I.

USSR/Physics - Nuclear physics

Card 1/2 Pub. 22 - 14/51

Authors : Levintov, I. I.

Title : Connection between polarization, angular dispersion cut dependence and the magnitude of spin-orbital reaction

Periodical : Dok. AN SSSR 101/2, 249-252, Mar 11, 1955

Abstract : A proof is given that the polarization of fast nucleons in their elastic dispersion over nuclei does not depend on the character of dispersion nuclei or on energies of the nucleons, and can be expressed as follows:

$$P(\theta) = \alpha \frac{d \ln \delta(\theta)}{d\theta} n,$$

Institution : Academy of Sciences at the USSR, Institute of Chemical Physics

Presented by: Academician N. N. Semenov, January 15, 1955

Periodical : Dok. AN SSSR 101/2, 249-252, Mar 11, 1955

Card 2/2 Pub. 22 - 14/51

Abstract : were  $P(\theta)$  is polarization,  $\delta(\theta)$  the spin dispersion cut and  $n$  normal (vector) to the dispersion-cut plane;  $\alpha$  and other quantities can be determined through the given formulas. Ten references: 8 English, 2 USSR (1949-1954). Graph.

LEVINTOV, I. I.

USSR/Physics

Card 1/2 Pub. 22 - 11/45

Authors : Levintov, I. I.

Title : A relationship between the polarization, cross-section (dispersion) and spin-orbital interaction in a quasi-classical approximation

Periodical : Dok. AN SSSR 103/2, 215-218, Jul 11, 1955

Abstract : A derivation of the formula standing for the quasi-classical expression of the relationship between the polarization, dispersion (cross-section) and an effective magnitude of the spin-orbital potential  $\alpha$  is presented. The subject derivation was accomplished on the following assumptions:  
1) A nucleus was described by a complex potential with the spin-orbital addition  $\frac{a}{r} \frac{\partial V}{\partial r} (1, \vec{\sigma})$ , where the  $V$  is the real part of a potential which

Institution : The Acad. of So., USSR, Institute of Physical Chemistry

Presented by : Academician N. N. Semenov, May 10, 1955



Card 2/2      Pub. 22 - 11/45

Periodical    : Dok. AN SSSR 103/2, 215-218, Jul 11, 1955

Abstract      : has the shape of a cavity with a flat bottom with not very diffused edges;  
2) the spin orbital addition was considered as a disturbance, i.e., the

$$\propto \rho(1, \vec{\sigma}) \ll 1.$$

Ten references: 4 USSR and 6 USA (1950-1955).

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CIA-RDP86-00513R000929620004-9"

USSR/Nuclear Physics - Instruments and Installations. Methods of Measurement  
and Investigation

C-2

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33829

Author : Lapitskiy, Yu. Ya., Levintov, I. I., Slivkov, I. N., Shanshev, V. N.

Institution : Institute of Chemical Physics, Academy of Sciences USSR

Title : Focusing System of Ionic Accelerating Tube

Original

Periodical : Zh. tekhn. fiziki, 1956, 26, No 4, 733-739

Abstract : A method is given for the calculation of an ion-optical system of a 6-section accelerating tube of one Mv and the experimental results are listed. The principal focusing system consists of 2 electrodes, located directly past the output opening of an ion source. This system produces a converging beam of ions. The position of the point of convergence can be varied over a wide range by varying the potential  $V_1$  on the first of the above electrodes. Thus, the variation of the value of  $V_1$  (over a range from 8 to 32 kv) is a convenient

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USSR/Nuclear Physics - Instruments and Installations. Methods of  
Measurement and Investigation

C-2

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33829

method of regulating the diameter of the beam on the target. A setup is described for measuring the ion current and for visually observing the beam near the target. The developed focusing system has made it possible to obtain at the output of the tube a conveniently adjustable ion beam with a current of up to  $800\mu\text{a}$  continuously and up to 2 ma in pulses.

Card 2/2

SUBJECT USSR / PHYSICS  
 AUTHOR LEVINTOV, I.I.  
 TITLE On the Amount of Nuclear Spin-Orbit Interaction.  
 PERIODICAL Zhurn.eksp.i teor.fis, 30, fasc.5, 987-989 (1956)  
 Issued: 8 / 1956 reviewed: 10 / 1956

CARD 1 / 2

PA - 1374

The author names all relative quantities of the moduli  $V_2/V_1$  of the central and of the spin-orbit potential on the basis of all data known to him.  $V_2/V_1$  can be determined from the data on polarization at high energies (100 to 300 MeV) without determining the density distribution  $q(r)$  of the nucleons in the nucleus, on the assumption that the spin-orbit correction makes only a small contribution towards the phase. One finds  $V_1/V_2 = k^2 \theta_m$ , where  $\theta_m$  is the angle under which the maximum polarization  $P_m$  is observed. The average value of  $V_2/V_1$  is  $3.5 \cdot 10^{-27} \text{ cm}^2$ .

The estimation of  $V_2/V_1$  from the data on scattering at low energies and from those on levels and shells requires certain conditions concerning the form of  $q(r)$ , but it can in some cases be carried out correctly. The levels of  $\text{He}^5$  and  $\text{Li}^5$ : The experimentally well determined course of the phases  $P_{1/2}$  and  $P_{3/2}$  in the case of scattering of nucleons by  $\text{He}^4$  within the energy range of from 1 - 15 MeV can be computed with great exactitude by putting  $q(r) = \exp(-r^2/a^2)$ . The potential which agrees best with the experiment is given, so that  $V_2/V_1 = 3.3 \cdot 10^{-27} \text{ cm}^2$  is obtained. The one-particle doublet levels of  $\text{O}^{17}$  and  $\text{Pb}^{209}$ : By solving the

Žurn.eksp.i teor.fiz,30, fasc.5, 987-989 (1956) CARD 2 / 2 PA - 1374

Schroedinger equation for the potential with plane bottom and smeared out edge, the author alleges to have obtained a more exact result than R.J.BLIN-STOYLE, Phil.Mag.96, 977 (1955) and for  $V_2/V_1$  and  $V_2/V_1$  the first perturbational approximation is explicitly given. A table shows the values of  $V_2/V_1$  for smeared out  $\delta=0,57(O^{17})$ ,  $\delta=0,29(Pb^{209})$  and  $V_1 = 50$  MeV. The order of filling the levels in the shells computed with the help of a potential between the oscillator potential and the rectangular well furnishes  $V_2/V_1 = 4 \cdot 10^{-27} \text{ cm}^2$ .

The relative amount of the spin orbit potential remains constant within wide limits if the energy of nucleons and the dimensions of the nucleus change, and amounts approximatively to  $3,5 \cdot 10^{-27} \text{ cm}^2$ . This may be explained by interpreting the effective nuclear potential as the average potential of the nucleon forming the nucleus. In the case of such an averaging over the closed shells the forces (e.g. tensor forces) which depend on the product of the spin of the outer nucleon and the nucleons in the nucleus make no contribution in first approximation. The existence of a strong spin orbit interaction is an argument in favor of the existence of forces of the kind  $V(\vec{r}) \{ \vec{l}(\vec{\sigma}_1 + \vec{\sigma}_j) \}$ .

INSTITUTION: Institute for Chemical Physics of the Academy of Science in the USSR.



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LEVINTOV, I. I. Doc Phys-Math Sci -- (Diss) "On ~~the~~ Nuclear Spin-Orbit Interaction." Mos., 1957. ~~15~~ 14 pp 22 cm. (Academy of Sciences USSR), 125 copies (KL, 18-57, 93)

- 1 -

LEVINTOV, I. I. (lead. Sci. USSR)

"On the Radius of the  $\alpha$  Particle,"

paper submitted at the All-Union Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 Nov 57

LEVINSON, I.I., MILIK, A.V., SHAPIRO, V.B.

"Measurement of Polarization of (D,T) Neutrons at  $E_d = 1800$  kev

USSR Acad. Sci. and Inst. of Chemical Physics

paper submitted at the A-U Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 Nov 57.

LEVINSON, I. I., MALYSHEV, A. M., NIKOLSKIY, V. G., YEREMIN, I. V.

"Measurement of Polarization of Protons from (D D) Reaction "

Inst. of Chemical Physics

paper submitted at the A-U Conf. on Nuclear Reactions in Medium and Low Energy  
Physics, Moscow, 19-27 Nov 57.

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620004-9

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620004-9"

LEVINTOV, I. I., MILLER, A. V. and SHAMSHEV, V. N.

"A New Method of Measurement of Neutron Polarization and n-He<sup>4</sup>  
Phase Analysis," Nuclear Physics (Amsterdam), 3, No.2, p. 221, 1957

Inst. Chemical Physics, AS USSR

English translation

LEVINTOV, I. I., MILLER, A. V., TARUMOV, E. Z. and SHAMSHEV, V. N.

"Dependence of (D + D) Neutron Polarization on Deuteron Energy,"  
Nuclear Physics (Amsterdam), 3, No.2, p. 237, 1957

Inst. Chemical Physics, AS USSR

English translation



AUTHOR LEVINTOV I.I., MILLER A.V., SHANSHEV V.N. PA - 2672  
 TITLE A new method for measurement of neutron polarization and phase analysis of  $n - He^4$ . (Novyy metod izmereniya polarizatsii neytronev srednykh energi i fazovoy analiz rasseyaniya  $n-He^4$ . Russian.)  
 PERIODICAL Zhurnal Eksperim. i Teoret. Fiziki 1957. Vol 32. Nr 2, pp 274 - 283 (USSR).  
 Received: 5/1957 Reviewed: 6/1957  
 ABSTRACT The measuring method mentioned in the title has an efficiency of  $\sim 1$  in the energy domain of 1 - 20 MeV and practically no background of a counter. As an intermediary result it rendered a precise description of the phase analysis of scattering  $n - He^4$  and the measuring of the polarization of (D-D)-neutrons for thick and thin targets within the energy domain  $E_d = 400 - 1800$  keV possible. As scattering material  $He^4$  was used by the authors in their analyzer. Polarization properties of this nucleus are discussed in detail. Thin proportionality counters filled with helium served as measuring devices. The reaction (D+D) served as a source of the polarized neutrons.  
Measuring of the azimuthal asymmetry of the scattering  $n-He^4$ .  
 The measuring device is discussed on the basis of a sketch.

CARD 1/2

PA - 2672

A new method for measurement of neutron polarization and phase analysis of  $n - \text{He}^4$ .

Thick and thin zirconium targets saturated with deuterium were used for measuring.

The precise description of the phase analysis of  $n - \text{He}^4$  scattering. Only two points of the most doubtful phase  $\delta_1^-$  were investigated by the authors on the assumption that the remaining phases  $\delta_0$  and  $\delta_1^+$  are sufficiently accurately known.

$\delta_1^-$  were investigated at neutron energies of 2,45 and 3,4 MeV.

The energy  $E = 3,4$  MeV: The asymmetry of scattering was measured for 7 angles of rotation  $\varphi_\alpha$  of the counters and measuring

results are shown together in a table. The energy 2,45 MeV:

$\delta_1^-$ . By comparing the experimental asymmetry on the occasion of the scattering of neutrons with known polarization.  $\delta_1^-$  was compared with the computed asymmetry for different values of the phase  $\delta_1^-$ . Results found here confirm J. D. SEAGRAVE'S measuring of the phase  $\delta_1^-$  at  $E_n = 2,61$  MeV.

(9 illustrations and 1 table.)

ASSOCIATION: not given.

PRESENTED BY: -

SUBMITTED: 1. 10. 1956.

AVAILABLE: Library of Congress.

CARD 2/2

AUTHOR

LEVINTOV I.I., MILLER A.V., TARUMOV E.Z., SHAMSHEV V.N., PA -- 2693

TITLE

The Dependence of the Polarization of (D+D)-Neutrons on the Energy of Deuterons.

PERIODICAL

(Zavisimost' polarizatsii (D+D)-neytronov ot energii deytonov -Russian) Zhurnal Eksperim. i Teoret.Fiziki, 1957, Vol 32, Nr 2, pp 375-376 (USSR)  
Received 5/1957 Reviewed 6/1957

ABSTRACT

A method described by I.I.Levintov et al., Zhurneksp. i teor. fis, Vol 32 Nr 2, 274 (1957) facilitates the measuring of the polarization of (D+D) neutrons in dependence on deuteron energy. The authors had at their disposal the acceleration tube of the Institute for Chemical Physics of the Academy of Science of the USSR., which furnishes deuterons with a maximum energy of 1800 keV. Polarization was measured on a thin and on a thick zirconium target. The situation of the rotation center of the counters and the values of the apertures of the 5 channels of the discriminator are given. The values of asymmetry measured by means of the thick target are shown together in a table. The maximum polarization of (D+D) neutrons computed from these data is demonstrated in a diagram. The results thus found are to be regarded as "yield" of the polarization. This "yield" of the polarization of (D+D)-neutrons (at an angle of  $\theta_n = 49^\circ$  in the laboratory system) at first (about from  $E_d=0$  to 0,9 MeV) increases considerably and later only slightly. For the second series of measurements a thin zirconium target (150 keV) was used. In the case of a long duration of bombarding of the target with D-ions a renewed distribution of the deuterium layer takes place and the thickness of the target changes. There-

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The Dependence of the Polarization of (D+D)-Neutrons on the Energy of Deuterons. PA - 2693

fore, the thin targets were exchanged after operation of from 20 to 30 hours. A further table contains the here measured values of asymmetry and a diagram illustrates the herefrom computed values of  $P_{\max}$  for (D+D)-neutron. The results found here, in spite of a very different method of measurements, agree with the results obtained by R.W. MEIER et Al., Helv. Phys. Acta, 27, 577 (1954). Polarization of the (D+D)-neutrons up to  $E_d=1,8$  MeV therefore depends monotonously on the deuteron energy. ( 2 ill. and 2 tables)

ASSOCIATION  
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Card 2/2

Institute for Chemical Physics of the Academy of Science of the USSR  
1.10.1956  
Library of Congress

56-34-4-53/60

**AUTHORS:** Levintov, I. I., Miller, A. V., Shamshev, V. N.

**TITLE:** The Measuring of the Polarization of (D+T)-Neutrons at a Deuteron Energy of 1800 keV (Izmereniye polarizatsii (D+T)-neytronov pri energii deytronov 1800 keV)

**PERIODICAL:** Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 34, Nr 4, pp. 1030 - 1032 (USSR)

**ABSTRACT:** The reaction  $T(d, n)He^4$  at a deuteron energy of  $E_d = 107$  keV passes the level  $3/2^+$  of the nucleus  $He^5$  formed by deuterons. For this reason the neutrons obtained at this energy can not be polarized. At  $E_d = 2$  MeV already a noticeable amount (about 50 %) of higher states is obtained. The explanation of the polarization degree of the neutrons produced in this very important reaction would be of interest. The polarization of the (D + T) neutrons was measured according to an earlier described method (Ref 1), in which a thin tantalum target saturated with helium was used, the target being coolable to a large extent; thus the ion current could be increased to 60 microamperes. The control test consisted in turning the

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56-34-4-53/60

The Measuring of the Polarization of (D+T) Neutrons at a Deuteron Energy of 1800 keV

counters in a direction vertical to the impinging neutron current. Also the possibility of the occurrence of a parasitary asymmetry was checked and it was found that the counting velocities in both positions of the counters coincide up to 0.5 %. The results obtained for the azimuthal asymmetry of scattering in various angles of emission of the neutrons from the target are shown in a table: it holds that

$\theta_n$	45	67.5	90	112.5	135
$P_n(\%)$	$7 \pm 3$	$12 \pm 3$	$10 \pm 3$	$2 \pm 3$	$0 \pm 5$

With increasing energy of the deuterons polarization will increase as well. The determination of the degree of polarization of the neutrons with a neutron energy of about 8 MeV, where the existence of a resonance is assumed, would be of especial interest. At present the author measures the polarization of the neutrons originating from the reaction  $D(T,n)He^4$ , for greater deuteron energies. There are 1 table and 3 references, 2 of which are Soviet.

Card 2/3

56.34.4.53/60  
The Measuring of the Polarization of (D+T)-Neutrons at a Deuteron Energy  
of 1800 keV

ASSOCIATION: Akademiya nauk SSSR  
(AS USSR)

SUBMITTED: January 18, 1958

1. Neutrons---Polarization

Card 3/3

24.6500

25183

S/056/6/040/006/004/031

B102/B214

AUTHORS: Levintov, I. I., Trostin, I. S.

TITLE: Neutron polarization in a reaction  $C^{12}(d,n)N^{13}$

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki,  
v. 40, no. 6, 1961, 1570 - 1571

TEXT: The authors measured the amplitudes of the scattering asymmetry of the neutrons from the reaction  $C^{12}(d,n)N^{13}$  by means of a helium analyzer. The measurements were made for the neutron groups which are responsible for the formation of  $N^{13}$  in the ground state. The 12.3-Mev neutron beam from the cyclotron of the ITEP AS USSR was fixed to the graphite target (thickness: 1.6 Mev according to the deuteron range) by a system of magnetic quadrupole lenses. The cross section of the beam on the target was  $3.5 \text{ mm}^2$ , and the mean current was  $1.5 \mu\text{A}$ . The helium proportional counters of the analyzer operated at 6.26 atm; this pressure was accurate to  $\pm 0.5 \text{ mm Hg}$ . The counters were continuously traversed by a current of technically pure helium (purity 99.8%, flow rate  $40 \text{ cm}^3/\text{sec}$ ).

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S/056/61/040/006/004/031

B102/B214

Neutron polarization in a reaction.

The plane of the helium analyzer (a battery of three counters) was perpendicular to the reaction plane. The target was at a distance of 150 mm from the axis of the pump. The pump axis passed through the center of the effective counter body whose length could be varied (between 15 and 25 mm) according to the angle of emission of the neutrons. The correction for the observed asymmetry of the anisotropic distribution of the neutrons was about 2 - 3%. The recoil nuclei of helium that were recorded could be traced back as due to neutrons of  $E > 0.8 E_{\max}$  ( $E_{\max}$  - the maximal energy for the given angle of observation). There were no neutrons in this range which were related to an  $H^3$  production in an excited state, i. e. in fact only such neutron groups were measured which were emitted on the production of ground state  $H^3$  in an energy interval of the deuterons determined by the thickness of the target ( $\sim 1.6$  Mev). The background did not exceed 10 - 15% and was eliminated by special measurements. The analyzer counters were calibrated for neutrons of the reaction under investigation for an angle of emission  $\theta_n = 60^\circ$ . The polarization was calculated from the asymmetry by using Seagrawe phases

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25183

S/056/61/040/096/004/031

B102/B214

Neutron polarization in a reaction ...

for the scattering of neutron by  $\text{He}^4$ . The values obtained for the neutron polarization are given in the Table; they are shown in a figure for  $E_d = 11.8 \pm 0.8$  Mev. The positive values of the polarization are taken in the direction  $\vec{n} = [\vec{k}_n \vec{k}_d]$ .

$\theta_n$ (lab. syst.) deg	20	30	40	45	50	60	70	80
$E_n$ (lab. syst.) Mev	11.4	11.2	10.9	10.8	10.6	10.3	9.92	9.54
$P_n$ %	2.6	0.	12.8	21.6	36.4	33.1	11.7	-22.6
	+1.5	+1.7	+5.2	+4.6	+2.1	+3.9	+4.2	+4.9

The authors thank the cyclotron team as well as F. A. Pavlovskiy and V. A. Smotryayev for help. There are 1 figure and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to English-language publications reads as follows: J. D. Seagrave. Phys. Rev. 92, 1222, 1953.

SUBMITTED: December 28, 1961

Card 3/4

LEVINTOV, I.I.; TROSTIN, I.S.

Neutron polarisation in the  $\text{Cl}^{35}(\text{d}, \text{n})\text{N}^{14}$  reaction. Zhur.  
eksp. i teor. fiz. 40 no.6:1570-1571 Je '61. (MIRA 14:8)  
(Nuclear reactions)  
(Neutrons—Scattering)

KANAVETS, V.P.; LEVINTOV, I.I.; MOROZOV, B.V.

Limit values of the amplitude of  $\pi^+ p$ -scattering. Zhur.eksp.i  
teor.fiz. 41 no.1:146-153 J1 '61. (MIRA 14:7)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.  
(Mesons—Scattering)

TROSTIN, I.S.; SMOTRYAYEV, V.A.; LEVINTOV, I.I.

Neutron polarization in the reaction  $T(d, n)He^4$ . Zhur.eksp.i  
teor.fiz. 41 no.3:725-727 3 '61. (MIRA 14:10)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.  
(Neutrons--Scattering) (Nuclear reactions)

34013

8/056/62/042/001/031/048  
B125/B102

24.6700

AUTHOR: Levintov, I. I.

TITLE: Polarisation and charge exchange in super high-energy  
np - scattering

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42,  
no. 1, 1962, 191-195

TEXT: If the exchange cross section in np-scattering approaches  
 $\sigma(\Delta^2, \infty) \neq 0$  for  $E \rightarrow \infty$ , then the limiting value of the polarization will  
be  $|P_\infty| < [\sigma(\Delta^2, \infty) / \sigma(\Delta^2, \infty)]^{1/2}$  where  $\sigma(\Delta^2, \infty)$  is the limiting cross section  
for elastic  $\pi^+p$  scattering. In  $\pi^+p$  and  $\pi^-p$  scattering  $P_\infty$  has the same  
modulus but different sign. If  $\sigma(\Delta^2, \infty) = 0$  then  $P_\infty = 0$ . The cross  
sections of the charge exchange reactions  $\pi^-p \rightarrow \pi^0n$ ,  $\pi^0p \rightarrow \pi^+n$  are  
connected with  $M_{\pi\pm}$  by  $\sigma_{\pi\pm}(\Delta^2) = 8\pi k^{-2}(|g^-|^2 + |h^-|^2)$  (2). The superscript

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Polarization and charge exchange in ...

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B125/B102

$\pm$  denotes half the difference or half the sum of the corresponding values for the scattering of  $\pi^+$  or  $\pi^-$  from protons. The relationship between  $k^{-1}g^+$ ,  $k^{-1}h^+$  and  $k^{-1}g_{\pm}$ ,  $k^{-1}h_{\pm}$  at high energies is explained by the dispersion relations by G. F. Chu, M. L. Goldberger, F. E. Low and J. Nambu (Phys. Rev., 106, 1337, 1958).

$$g^{\pm} = \frac{(W+M)^2 - \mu^2}{16\pi W^2} [A^{\pm} + (W-M)B^{\pm}] + \left(1 + \frac{2\Delta^2}{k^2}\right) \frac{(W-M)^2 - \mu^2}{16\pi W^2} [-A^{\pm} + (W+M)B^{\pm}], \quad (3)$$

and

$$-h^{\pm} = \frac{2\Delta}{k} \sqrt{1 + \frac{\Delta^2}{k^2}} \frac{(W-M)^2 - \mu^2}{16\pi W^2} [-A^{\pm} + (W+M)B^{\pm}]. \quad (4),$$

( $\nu = E_{\text{lab}} - \frac{1}{2}M^{-1}$ ,  $E_{\text{lab}}$  is the meson energy in the laboratory system.)

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S/056/62/042/001/031/048  
B125/B102

Polarization and charge exchange in ...

$M$  and  $m$  are the masses of the nucleon and meson,

$W^2 = M^2 + 2 + k^2 + 2 \sqrt{(M^2 + k^2)(m^2 + k^2)}$  is the square of the total energy in the center-of-mass system ( $\beta = c = 1$ ). From the expressions

$$\operatorname{Re} Z^-(v, \Delta^2) - \frac{2}{\pi} P \int_0^{\infty} \frac{\operatorname{Im} Z^-(v', \Delta^2) v' dv'}{v'^2 - v^2} = \operatorname{Re} Z^-(v_0, \Delta^2) - \quad (10)$$

$$- \frac{2}{\pi} P \int_0^{\infty} \frac{v_0^2 \operatorname{Im} Z^-(v', \Delta^2) dv'}{(v'^2 - v_0^2) v'} = p(\varepsilon, \Delta^2),$$

and

$$v \operatorname{Re} Z^+(v, \Delta^2) - \frac{2}{\pi} P \int_0^{\infty} \frac{\operatorname{Im} Z^+(v', \Delta^2) v' dv'}{v'^2 - v^2} = v_0 \operatorname{Re} Z^+(v_0, \Delta^2) - \quad (11)$$

$$- \frac{2}{\pi} P \int_0^{\infty} \frac{v_0^2 \operatorname{Im} Z^+(v', \Delta^2) dv'}{v'^2 - v_0^2} = q(\varepsilon, \Delta^2).$$

Card 3/6



Polarization and charge exchange in ...

S/056/62/042/001/031/048  
B125/B102

for the asymptotic behavior of  $\text{Re}Z^{\pm}$  and  $\text{Im}Z^{\pm}$  at  $\nu_0 \rightarrow \infty$

$$k^{-1} \text{Re} g^+(\infty, \Delta^2) = 0, \quad (12)$$

$$k^{-1} \text{Im} g^-(\infty, \Delta^2) = 0, \quad (13)$$

$$\int_0^{\infty} k^{-1} \text{Im} g^- dk < \infty, \quad (14)$$

and analogous relations for  $k^{-1}h$  follows for the asymptotic properties of the amplitude for  $k \rightarrow \infty$  and  $\Delta^2 \rightarrow \infty$ . The following two cases are possible: if the charge exchange cross section per unit interval of the square of the transferred momentum approaches zero at high energies, then

$$k^{-1} \text{Re} g^-(\infty, \Delta^2), k^{-1} \text{Re} h^-(\infty, \Delta^2) = 0 \quad (15) \text{ and } P_{\pm} = 0.2). \text{ With}$$

$$g^-(\infty, \Delta^2) \neq 0, k^{-1} \text{Re} g^-(\infty, \Delta^2) = k^{-1} \text{Re} g_{\pm}(\infty, \Delta^2) = -k^{-1} \text{Re} g_{\mp}(\infty, \Delta^2) \neq 0 \quad (16).$$

Similar relations hold for  $k^{-1} \text{Re} h_{\pm}(\infty, \Delta^2)$ . From (16) (13) the author obtains after some intermediate calculations:

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34013

Polarization and charge exchange in ...

S/056/62/042/001/031/048  
B125/B102

$\overline{P}_{\pi}^2 \langle (\sigma_{\pi})_{\text{tot}} / \sigma_{\text{elast}} = (\sigma_{\pi})_g + (\sigma_{\pi})_h / \sigma_{\text{elast}} \quad (20)$  for the square of the extremal polarization averaged over the scattering cross section.  $(\sigma_{\pi})_{g,h}$  are the portions of the total cross section of charge exchange that are related with  $(\text{Re } g)^2$  and  $(\text{Re } h)^2$  at very high energies. No reliable data are as yet available on the total cross sections of charge exchange at energies of some Bev. The estimate  $(\sigma_{\pi})_g = 8\pi \int k^{-2} \text{Re } g d(\Delta^2) \lesssim 2 \cdot 10^{-29} \text{ cm}^2$  which is exceeded by  $(\sigma_{\pi})_h$  also at high energies follows from the optical model. Then

$\overline{P}_{\pi}^2 \lesssim 6\%$ . Charge exchange does not always vanish with vanishing polarization. The change in the spin direction in the scattering of  $\pi$  from polarized protons does not always disappear at high energies (if  $\sigma_{\pi}(\infty, \Delta^2) = 0$ ). (13), (14) and the equations following therefrom hold for the transfer of arbitrarily large, finite momenta and also if the energy tends to  $\infty$ . A private communication made by N. G. Birger is Card 5/6

34013

Polarization and charge exchange in ...

S/056/62/042/001/031/048  
B125/B:02

mentioned. I. Ya. Pomeranchuk, K. A. Ter-Martirosyan, A. F. Grashin, and P. A. Pavlovskiy are thanked for critical remarks. There are 6 references; 2 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: G. F. Chew, M. L. Goldberger, F. E. Low, J. Nambu, Phys. Rev., 106, 1337, 1957; A. C. Finn. Phys. Rev., 119, 1786, 1960; D. Amati, M. Fierz, W. Glaser. Phys. Rev. Lett., 4, 89, 1960; L. Wolfenstein. Phys. Rev., 92, 123, 1953. ✓

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki  
Akademii nauk SSSR (Institute of Theoretical and Experimental  
Physics of the Academy of Sciences USSR)

SUBMITTED: July 17, 1961

Card 6/6

L 10197-63

EWP(q)/EWT(m)/BDS--AFFTC/ASD--JD/HW-2

ACCESSION NR: AP3000030

S/0056/63/044/005/1437/1441 66  
62

AUTHOR: Levintov, I. I.; Okorokov, V. V.; Smotryayev, V. A.; Tolchenkov, D. L.;  
Trostin, I. S.

TITLE: Gross structure of the neutron energy spectrum<sup>9</sup> and polarization in (d, n) reactions on nuclei of intermediate mass

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 44, no. 5, 1963, 1437-1441

TOPIC TAGS: neutron spectra, gross structures, stripping reactions, neutron polarization

ABSTRACT: With an aim at obtaining data on gross structures in stripping reactions involving neutrons, a study was made of the spectra of neutrons produced in (d, n) reactions on neutral Co, Fe, Ni, and Cu nuclei, for deuteron energies of 12.1 plus or minus 0.4 Mev and for a neutron emission angle 10° in the laboratory system. Proof that the narrow levels forming a group with a gross peak actually have the same spin and parity would be of particular importance for a check on nuclei formed in specific stripping reactions. To this end, the

Card 1/2 Inst. *teoreticheskoy i eksperimental'noy*

L 10197-63

ACCESSION NR: AP3000030

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polarization and angular distribution of neutrons of the main gross peaks were also investigated for the  $\text{Co}(d,n)\text{Ni}$  and  $\text{Fe}(d,n)$  reactions. A time-of-flight technique was used with a multichannel time analyzer of nanosecond range, operating on a vernier-scale principle. A distinct gross structure was found to be present in the neutron spectra. Whereas the proton spectra of Schiffer et al (Phys. Rev. v. 115, 427, 1959) contain several peaks of approximately the same height, the neutron spectra obtained here contain along with peaks of comparatively small height one peak with height several times that of the others. Some relation is found between the extent to which the proton shells are populated and the intensity of the proton spectra. The polarization angle was found to be about 11 and 7° for the  $\text{Co}(d,n)\text{Ni}$  and  $\text{Fe}(d,n)\text{Ni}$  reactions, respectively, and the angular momentum of the captured proton was greater than or equal to 3. On the whole, the obtained experimental data agree with the views on the existence of gross peaks in the neutron spectra from the  $(d,n)$  reactions for which definite quantum numbers can be assigned. "The authors express their deep gratitude to the cyclotron crew of the Institute of Theoretical and Experimental Physics for the faultless operation of the accelerator and to V. S. Repin, I. V. Malyutin, and I. I. Mitrofanov for aid in the measurements." Original article has 4 figures.

Card 2/3

L 10200-63

INT(m)/BDS--AFFTC/ASD

ACCESSION NR: AP3000031

S/0056/63/044/005/1442/1444

AUTHOR: Levintov, I. I.; Pavlovskiy, F. A.

TITLE: Attempt at detection of the polarization of recoil nuclei in stripping reactions

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 44, no 5, 1963, 1442-1444

TOPIC TAGS: Stripping reactions, recoil nuclei, Gamma background

ABSTRACT: The polarization of Li-8 nuclei from the Li-7 (p,d) reaction was determined from the asymmetry of their Beta decay. The deuteron energy was 10 MeV and the extracted beam from a cyclotron was used. This reaction was chosen in view of the possibility of using Alpha-Beta coincidences in the measurement of the Beta-decay asymmetry, in order to decrease the background. Nuclei emitted from the target were accumulated in helium and carried by a fast stream of the gas in a strong magnetic field to well-shielded counters. The asymmetry observed was negligible and connected with the small effective value of the polarization of the nuclei, not being a consequence of depolarization effects. It is shown

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L 10200-63

ACCESSION NR: AP3000031

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that the various usual sources of depolarization are little effective in this case. Asymmetry values were obtained for two intervals of the c.m.s. emission angles of the nuclei. Attempts to study polarization in other reactions were unsuccessful, owing to the Gamma background. "We thank B. M. Stasevich and the cyclotron crew under his direction for their assistance during all phases of the work." Original article has 1 figure and 1 formula.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute of Theoretical and Experimental Physics)

SUBMITTED: 15Nov62 DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: PH

NR REF SOV: 002

OTHER: 003

bm/CO  
Cord 2/2

KANAVETS, V.P.; LEVINTOV, I.I.; MOROZOV, B.V.

Comparison of elastic  $\pi p$ - and  $pp$ -scattering based on a model  
with three Regge poles. Zhur. eksp. i teor. fiz. 45 no.3:679-  
683 S '63. (MIRA 16:10)

1. Institut teoreticheskoy i eksperimental'noy fiziki.  
(Protons—Scattering) (Nuclear models)



KANAVETS, V.P.; LEVINTOV, I.I.; MDROZOV, B.V.; SHAFRANOV, M.D.

Polarization in pp-scattering at an energy of 8.5 Bev. Zhur.  
eksp. i teor. fiz. 45 no.4:1272-1275 O '63. (MIRA 16:11)

1. Institut teoreticheskoy i eksperimental'noy fiziki i Ob"yedi-  
nennyy institut yadernykh issledovaniy.

LEVINTOV, I.I.

Calculating the real part of the scattering amplitude as the asymptotic behavior of the imaginary part. Zhur. eksp. i teor. fiz. 45 no.4:1275-1277 0 '63. (MIRA 16:11)

1. Institut teoreticheskoy i eksperimental'noy fiziki.

L 41013-65 EWI(m)/T/EWA(m)-2  
ACCESSION NR: AP5007710

S/0367/65/001/001/0096/0102

spin states. New data presented in the present paper, however, required a more thorough analysis. Namely, the polarization measurements at the initial proton

**"APPROVED FOR RELEASE: 07/12/2001**

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CIA-RDP86-00513R000929620004-9

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620004-9"

KANAVETS, V.P.; LEVINTOV, I.I.; MOROZOV, B.V.

Polarization in elastic proton-proton scattering at high energies.  
Iad. fiz. 1 no.1:96-102 Ja '65. (MIRA 18:7)

1. Institut teoreticheskoy i eksperimental'noy fiziki Gosudarstvennogo  
komiteta po ispol'zovaniyu atomnoy energii SSSR.

LEVINTOV, S.D.

AUTHOR: Sergeyev, A.S., Docent

105-58-5-25/28

TITLE: Dissertations (Dissertatsii)

PERIODICAL: Elektrichestvo, 1958, Nr 5. pp. 91-92 (USSR)

ABSTRACT: For the Degree of Candidate of Technical Sciences.  
At the Ural Polytechnic Institute imeni Kirov (Ural'skiy  
 politekhnicheskii institut im. Kirova):  
S.D. Levintov on June 27, 1949 "Electromechanic Transition Processes  
in a Synchronous Motor in the Case of Periodic Load (of the Com-  
pressor Type)". Official opponents: N.S. Siunov, Professor, Doctor  
of Technical Sciences, I.D. Urusov, Docent and A.T. Blazhkin,  
Candidate of Technical Sciences.  
I.S. Pinchuk on June 27, 1949 "Electromechanic Transition Processes  
in Asynchronous Motors". Official opponents: N.S. Siunov, Professor,  
Doctor of Technical Sciences, A.A. Yanko-Trinit'skiy, Docent, Candi-  
date of Technical Sciences and P.M. Chudnovskiy, Engineer.  
I.D. Urusov on June 27, 1949 "The Mechanical Strength of the Casing  
of Electric Machines Subjected to the Action of Electromagnetic  
Loads". Official opponents: I.B. Sokolovskiy, Doctor of Technical  
Sciences and M.V. Belyayev, Docent, Candidate of Technical Sciences.

Card 1/4



Dissertations

105-58 5-25/28

S.P.Sitnikov on March 6, 1950 "Some Problems Connected with the Theory of Aro-Extinguishing Devices". Official opponents: N.S.Siunov, Professor, Doctor of Technical Sciences, V.G.Stepanov, Docent, Candidate of Technical Sciences and V.M.Sin'kov, Docent, Candidate of Technical Sciences.

D.M.Shakhray on June 26, 1950 "The Investigation of a Special System for the Electric Equipment of Dredges". Official opponents: I.B.Sokolovskiy, Professor, Doctor of Technical Sciences, M.V. Belyayev, Docent, Candidate of Technical Sciences and A.Ye.Tropp, Candidate of Technical Sciences.

G.P.Kropachev on June 30, 1953 "Investigation of an Asynchronous Starter in Synchronous Machines with Salient Poles and Without Starter Cage". Official opponents: N.S.Siunov, Professor, Doctor of Technical Sciences, S.A.Volotkovskiy, Doctor of Technical Sciences and M.A.Pirumyan, Docent.

V.P.Shasherin on January 18, 1954 "Some Problems of Cathode-Oscillographic Measurements when Testing High-Frequency Apparatus". Official opponents: N.S.Siunov, Professor, Doctor of Technical Sciences and V.G.Stepanov, Candidate of Technical Sciences.

R.N.Urmanov on June 7, 1954 "Investigation and Calculation of Circuits with a Three-Phase Welding Aro". Official opponents: S.A.Volotkovskiy, Professor, Doctor of Technical Sciences and G.P.Mikhaylov, Professor, Doctor of Technical Sciences.

Card 2/4

Dissertations

105-58-5-25/28

At the Sverdlovsk Mining Institute imeni Vakhrushev (Sverdlovskiy gornyy institut im. Vakhrusheva):

I.P.Petrov on February 15, 1954 "Electric Locomotive for Pits with Repulsion Traction Motors for Single-Phase Currents of Normal Frequency". Official opponents: N.S.Siunov, Professor, Doctor of Technical Sciences and A.T.Blazhkin, Docent, Candidate of Technical Sciences.

At the Gor'kiy Polytechnic Institute imeni Zhdanov (Gor'kovskiy politekhnicheskii institut im. Zhdanova):

S.N.Shevchuk on June 14, 1949 "Problems of Insulation against Loss of Heat in Electromotors of Metal-Working Machines". Official opponents: D.M.Morozov, Professor, Doctor of Technical Sciences, N.V.Shchedrin, Docent, Candidate of Technical Sciences and M.P.Shvakov, Engineer.

At the Tomsk Polytechnic Institute imeni Kirov (Tomskiy politekhnicheskii institut im. Kirova):

G.F.Pukhova on March 26, 1947 "On the Problem of the Automatic Re-Connection of Individual Lines in the Case of Electric Transmission with Bilateral Feed". Official opponents: V.A.Voronov, Professor, Doctor of Technical Sciences and I.D.Kutyavin, Candidate of Technical Sciences.

Card 3/4

Dissertations

105-58-5-25/28

A.N.Zhilin on April 26, 1950 "Transition Processes in Three-Phase Circuits in the Case of Non-Simultaneous Phase Connection". Official opponents: V.K.Shcherbakov, Professor, Doctor of Technical Sciences and Yu.Ye.Nebolyubov, Docent, Candidate of Technical Sciences.

V.A.Abakumov on June 30, 1950 "Automation of a Series-Wound Motor According to the Leonard Circuit with Shunt-Wound Generator".

Official opponents: I.A.Balashev, Professor, Doctor of Technical Sciences and L.I.Gandzha, Docent, Candidate of Technical Sciences.

V.U.Kostikov on March 13, 1954 "Methods of Determining Equivalent Specific Electric Conductivity". Official opponents: V.K.Shcherbakov, Professor, Doctor of Technical Sciences and V.N.Titov, Docent, Candidate of Technical Sciences.

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Card 1/4

LEVINTOV, S. D.

PA 164T19

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USSR/Electricity - Synchronous Machines Jul 50  
Salient-Pole Machines

"Determination of Angle  $\Theta$  in Salient-Pole Synchronous Machines," S. D. Levintov, Cand Tech Sci, Sverdlovsk Branch, All-Union Inst for Electrification of Agr

"Elektrichestvo" No 7, pp 64-65

Proposes nomographic method of determining angle  $\Theta$  according to current and phase, given quadrature-axis synchronous reactance of machine. Basis of this system is vector diagram for synchronous machine with given operating condition.

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164T19

LEVINTOV, S.D., kandidat tekhnicheskikh nauk.

Effecting self-synchronisation of generators of rural hydroelectric power plants. Mekh, i elek.sel'khoz. no.4:71-75 Ap '53. (MLBA 6:5)

1. Sverdlovskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta elektrifikatsii sel'skogo khozyaystva. (Dynamon)

LEVINTOV, S.D., kandidat tekhnicheskikh nauk; TAGIROV, M.A., inzhener

Static characteristics of agricultural load. Nauch.trudy VIESKH  
no.1:99-124 '54. (MIRA 8:11)

1. Sverdlovskiy filial Vsesoyuznogo Instituta elektrifikatsii sei'-  
skogo khozyaystva  
(Electricity in agriculture)

LEVINTOV, S. D.

AID P - 466

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 29/34

Author : Levintov, S. D., Kand. of Tech. Sci., Sverdlovsk

Title : Conference on Scientific and Technical Problems of  
Electrification in Agriculture. (Current News)

Periodical : Elektrichestvo, 7, 91-92, J1 1954

Abstract : In April 1954 a conference was held in Sverdlovsk on problems of electrification of agriculture. The conference was organized by the oblast section of VNITOE (All-Union Scientific Society of Power Engineers and Technicians).

Institution : Sverdlovsk Section of VNITOE

Submitted : No date

*LEVIN, S. S. Davidovich*

GVOZDEV, Vlas Semenovich, kand.tekhn.nauk; VAKHRAMEYEV, Boris Alekseyevich, insh.; GERMAN, Avraam L'vovich, insh.; KOSTIN, Konstantin Fedorovich, insh.; LEVINTOV, Sennal' Davidovich, kand.tekhn.nauk; TARASOV, A.S., insh., retsentsent; YERMAKOV, N.P., tekhn.red.

[The equipment of rural hydroelectric power plants] Oborudovanie sel'skikh gidroelektricheskikhstantsii. Izd. 2-oe, perer. Pod. obshchei redaktsiei V.S.Gvozdeva. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 423 p. (MIRA 11:2)  
(Hydroelectric power stations)



"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620004-9

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620004-9"

LEVINTOV, Samuel' Davidovich, kand. tekhn. nauk, dots.

Graphic method for calculating the mechanical characteristics of d.c. motors associated with complicated connection circuits. Izv. vys. ucheb. zav.; elektromekh. 1 no.3:102-110 '58. (MIRA 11:6)

1. Kafedra elektrofikatsii promyshlennyykh predpriyatiy Chelyabinskogo politekhnicheskogo instituta.

(Electric machinery—Direct current—Graphic methods)

SOV/144-58-8-13/18  
AUTHOR: Levintov, S.D., Candidate of Technical Sciences, Docent  
TITLE: Engineering Method of Calculation of the Mechanical  
Characteristic of a Short-circuited Asynchronous Motor  
(Inzhenernyy metod rascheta mekhanicheskoy kharakteristiki  
asinkhronnogo korotkozamknutogo dvigatelya)  
PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Elektromekhanika,  
1958, Nr 8, pp 102 - 107 (USSR)  
ABSTRACT: Current methods of calculation of the mechanical charac-  
teristics of short-circuited asynchronous motors, taking  
into consideration the influence of the magnetic saturation  
of the steel and the displacement of the current in the  
rotor (Refs 2, 3, 5, 6), are complicated. Some of these  
methods require knowledge of various values not contained  
in catalogues, e.g. of the height of the rotor slots  
(Ref 6). In text and reference books, the Kloss formula  
is recommended, which involves considerable errors in the  
range of high slip values. In this paper, an attempt is  
made to give a simple approximate method of calculation  
of the mechanical characteristic of a short-circuited  
asynchronous motor with deep slots by means of which it  
would be possible to determine sufficiently accurately  
the torques for the entire zone of the slips of the motor;

Card1/3

SOV/144-58-9-13/18

Engineering Method of Calculation of the Mechanical Characteristic of a Short-circuited Asynchronous Motor

for this, only a minimum of catalogue data are required. The here presented method of calculation is based on the simplified equation:

$$\frac{M}{M_k} = \frac{2}{\frac{s}{s_k} + \frac{s_k}{s}} \quad (1)$$

where  $M_k$  and  $s_k$  are respectively the critical torques and the critical slip,  $M$  is the torque corresponding to the slip  $s$ . In Figure 8, experimental data are compared with data calculated by means of the here presented method. It can be seen that the greatest difference between the torques determined by means of Eq (5), p 105, and those determined experimentally does not exceed 5 - 6%. The here presented method is suitable for calculating with adequate accuracy the mechanical

Card2/3

SOV/144-58-8-13/18

Engineering Method of Calculation of the Mechanical Characteristic  
of a Short-circuited Asynchronous Motor

characteristics of short-circuited asynchronous motors  
and is applicable to various calculations of asynchronous  
drives. A calculation example is included.  
There are 8 figures, and 8 Soviet references.

ASSOCIATION: Kafedra elektrifikatsii promyshlennykh predpriyatiy  
Chelyabinskogo politekhnicheskogo instituta  
(Chair for Electrification of Industrial Undertakings  
of Chelyabinsk Polytechnical Institute)

SUBMITTED: May 23, 1958

Card 3/3

LYULICHEV, A.N.; LEVINTOVICH, E.V.

Determining the volumetric weight of refractories by  
gamma-ray absorption. Ogneupory 23 no.7:319-324 '58.  
(MIRA 11:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ogneporov.  
(Refractory materials--Testing)  
(Gamma rays--Industrial applications)

LEVINTOV S. D.

110-3-22/22

AUTHOR: Levintov, S.D., Candidate of Technical Sciences.

TITLE: The Design of Starting Resistances for d.c. Motors  
(Raschet puskovykh soprotivleniy dlya elektrodvigatelye  
postoyannogo toka)

PERIODICAL: Vestnik Elektromyshlennosti, 1955, Vol.29, No.3,  
pp. 79 - 80 (USSR).

ABSTRACT: The total resistance required in the armature circuit during starting can easily be calculated for all types of d.c. motor. However, division of the starting resistance into steps can be done analytically only for independently-excited motors. For series- and compound-wound motors, grading must be decided graphically. The article describes and exemplifies in Fig. 1 a graphical procedure which makes use of the relationship between the motor torque and the current. There are 3 figures, 3 Russian references.

ASSOCIATION: Chelyabinsk Polytechnical Institute (Chelyabinskiy politekhnicheskii institut)

AVAILABLE: Library of Congress

Card 1/1

1. Electric motors-Torque

2. Electric motors-Current

USCOMM-DC-54708

LEVINTOV, S.D.

Calculation of load diagrams of an electric drive with a static  
moment depending on the path. Izv. vys. ucheb. zav.; elektromekh.  
& no. 1113-120 '61. (MIRA 14:14)  
(Electric driving)



LEVINTOV, S.D., kand.tekhn.nauk, dotsent

Transient processes in the synchronous drives of piston  
machines. Energ. sbor. no.2:55-95 '59. (MIRA 15:1)  
(Electric motors, Synchronous)

LEVINTOV, S.D., kand.tekhn.nauk, dotsent

Determination of the compounding "threshold" current  
magnitude. Energ. sbor. no.2:96-102 '59. (MIRA 15:1)  
(Electric generators)  
(Electric power distribution)

LEVINTOV, S.D., kand.tekhn.nauk; SUVOROV, G.V., inzh.

Concerning the measurement of the r.m.s. value of the current  
of electric motors. Prom. energ. 15 no.7:24-26 J1 '60. (MIRA 15:1)

(Electric motors)

(Electric currents, Alternating—Measurement)

LEVINTOV, S.D., kand.tekhn.nauk, dotbent; KRAVTSOV, N.Ya., inzh.

Rating the power of the motor of a piercing mill. Vest.mash.  
42 no.4:50-51 Ap '62. (MIRA 15:4)  
(Pipe mills)

LEVINTOV, Samuel' Davidovich, kand.tekhn.nauk, dotsent

Calculation of the load diagram of an electric drive with static moment and moment of inertia dependent on the path. Izv.vys.ucheb. zav.; elektromekh. 5 no.4:429-436 '62. (MIRA 15:5)

1. Kafedra elektrooborudovaniya promyshlennykh predpriyatiy  
Chelyabinskogo politekhnicheskogo instituta.  
(Electric driving)

LEVINTOV, S.D., kand. tekhn. nauk, dotsent; KRAVTSOV, N.Ya., inzh.

Loads of the electric drives of the auxiliary mechanisms of  
a blooming mill. Izv. vys. ucheb. zav.; energ. 7 no.6:40-46  
Je '64 (MIRA 17:8)

1. Chelyabinskiy politekhnicheskiy institut. Predstavlena  
kafedroy elektroprivoda i avtomatizatsii promyshlennykh  
ustanovok.

LEVINTOV, Samuel' Davidovich, kand. tekhn. nauk, docent

Second edition of V.P. Andreev and M.A. Sabinin's book "Principles of electric drives". Izv. vys. ucheb. zav.; elektromekh.  
7 no.8:1037-1040 '64. (MIRA 17:10)

1. Zaveduyushchiy kafedroy elektroprivoda i avtomatizatsii promyshlennykh ustanovok Chelyabinskogo politekhnicheskogo instituta.

1981.10.10, S.P., abstract; 1981.10.10, S.P., abstract.

Industrial electric locomotive with regenerative braking.  
Izv. vys. ucheb. zav.; gor. zhur. 8 no.1:106-111 '65.

(MIRA 10:3)

1. Chelyabinskiy politekhnicheskii institut. Rekomendovana kafedroy  
elektroprivoda i avtomatizatsii promyshlennykh ustanovok.



LEVINTOV, S.D., kand. tekhn. nauk; POLYAKOV, G.V., inzh.

Recuperation of electric power in the transport systems of open &  
pit mines. Prom. energ. 20 no.5:4-9 My '65. (MIRA 18:7)

BROVMAN, M.Ya.; VYDRIN, V.N.; YERMKHIN, F.K.; KISLYUK, V.A.; KRAYNOV, V.I.;  
LEVINTOV, S.D.; RIMEN, V.Kh.; SEREBRYAKOV, A.N.; SHEYDER, B.E.

Method of controlling the tension in continuous rolling mills.  
Stal' 25 no.7:629-631 J1 '65. (MIRA 18:7)

LEVINTOVA, S.Ye.; MAKHTINGER, A.I.

Materials for the study of the higher nervous function in children  
in rheumatism; preliminary communication. Vopr. pediat. 20 no. 5:  
14-18 Sept-Oct 1952. (CJML 23:3)

1. Of the Department of Higher Nervous Activity (Head -- Prof. N. I.  
Krasnogorskiy, Active Member AMS USSR) and of the Clinic for Older  
Children (Scientific Supervisor -- Prof. A. B. Volovik), State  
Scientific-Research Pediatric Institute (Director -- A. L. Libov).

KRASNOGORSKIY, N.N.; LEVINTOVA, S.Ye.

Unconditioned radiation reflexes in rheumatism in children.  
Pediatrics no.5:27-28 8-0 '54. (MIRA 7:12)  
(RHEUMATIC HEART DISEASE, in infant and child,  
unconditioned radiation reflexes in)

LEVINTOVA, S.Ye.

Some problems in establishing a regimen in nurseries for children with chronic dysentery. Vop.okh.mat. i det. 1 no.2:74-76 Mr-Apr '56.

(MLRA 9:9)

1. Iz laboratorii vysshey nervnoy dyatel'nosti (zav.-deystvitel'-nyy chlen AMN SSSR prof. N.I.Krasnogorskiy) Gosudarstvennogo nauchno-issledovatel'skogo pediatricheskogo instituta (dir.-prof. A.L.Libov) Leningrad.

(CHILDREN--DISEASES)

(DIET)

(DYSENTERY)

MAKHTINGER, A.I., doktor meditsinskikh nauk; LEVINTOVA, S.Ye., kandidat  
meditsinskikh nauk; SINIVA, T.N.; MEL'NIKOVA, Y.I.

Unconditioned secretion of the salivary glands in cases infectious  
hepatitis (Botkin's disease). Vop.okh.mat. i det. 1 no.4:44-48  
Jl-Ag '56. (MLRA 9:9)

1. Iz otdela vysshey nervnoy deyatel'nosti (sav. - deystvitel'nyy  
chlen AMN SSSR prof. N.I.Krasnogorskiy) i kliniki starshego  
vozrasta (konsul'tant - prof. A.B.Volovik) Gosudarstvennogo nauchno-  
issledovatel'skogo pediatricheskogo instituta (dir. - prof. A.L.  
Libov) Leningrad.

(HEPATITIS, INFECTIOUS) (SALIVARY GLANDS)

LEVINTOVA, S.Ye., dotsent

Conditioned reflex activity in children with recurrent rheumatic  
carditis and cardiac defects. *Pediatrics* 39 no.2:20-26 Mar-Apr '56.  
(MIRA 9:8)

1. Is laboratorii vysshey nervnoy deyatel'nosti rebenka (sav. -  
deystvitel'nyy chlen AMN SSSR prof. N.I.Krasnogorskiy) i kliniki  
starshogo detstva (nauchnyy rukovoditel' prof. A.B.Volovik) Nauchno-  
issledovatel'skogo pediatricheskogo instituta (dir. doktor meditsin-  
skikh nauk A.L.Libov)

(RHEUMATIC HEART DISEASE, in infant and child,  
conditioned reflex funct. in (Rus))  
(REFLEX, CONDITIONED,  
in rheum. heart dis. in child.(Rus))

C. A. LEVINTOVICH, Jr. V.

Procedure for determining specific gravity by hydrostatic

weighing in benzene. N. Z. Shumakova and N. V. Levintovich. *Otmosfery* 15, 137-33(1960).—The procedure for determining specific gravity with Russian Specification 2311-43 gives considerable differences between parallel determinations. This was traced to difference in temp. between benzene in a pycnometer and in a vessel for weighing which caused changes in wt. of the pycnometer for a period as long as 15-20 min. A specially designed vessel housing 6-8 pycnometers was constructed. Details and values are given. N. Z. Kozlov



USSR/Engineering - Refractories, Moisture Control

"Rapid Determination of Moisture of Raw Materials and Intermediate Products by the Radiation Drying Method," I. Ye. Dudavskiy, M. P. Dragilova, E. V. Levinovich, Khar'kov Inst of Refractories

"Ogneupory" No 8, pp 370-378

Describes method in which rapid transfer of large amounts of heat is realized by light radiation from incandescent heating spiral. Application of surface thermocouple in form of disk, which measures temp of sample dish bottom, provides for precise determination of drying end moment, preventing overheating of sample. Total time of determination is 5 min. Method has been used since 1951 at Plant imeni ordzhonikidze instead of carbide method.

PA 239763

DUDAVSKIY, I.Ye.; LEVINTOVICH, E.V.; DRAGILEVA, M.P.

Rapid determination of porosity, moisture absorption and volume  
weight of refractory materials. Ogneupory 18 no.1:33-42 '53.  
(MIRA 11:10)

1.Khar'kovskiy institut ogneuporov.  
(Refractory materials--Testing)

DUDAVSKIY, I.Ye.; LEVINTOVICH, Ye.V.; DRAGILEVA, M.P.

Method of rapid determination of the specific gravity of dinas  
bricks. Ogneupery 18 no.6:260-265 Je '53. (MIRA 11:10)

1.Khar'kovskiy institut ogneuperev.  
(Firebrick) (Specific gravity)

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